



Polybutylene (PB) Plumbing

What is Polybutylene

Plastic Polybutylene Piping (PB) is a form of plastic resin that was used extensively in the manufacture of water supply piping from 1978 to mid 1990's. Due to the low cost of the material and ease of installation, Polybutylene piping systems were viewed as "the pipe of the future" and were used as a substitute for traditional copper piping in up to 10 million homes and manufactured homes. Interior PB plumbing is identified as grey colored plastic tubing, usually with QEST or Vanguard brand names. Polybutylene underground water mains are usually blue, but may be grey or black (do not confuse black poly with Polyethylene pipe).

Buildings with Polybutylene plumbing began reporting leaks and failures in the mid 1980's. Class action lawsuits were filed complaining of allegedly defective manufacturing and defective installation causing hundreds of millions of dollars in damages. Although the manufacturers never admitted that Polybutylene is defective, they agreed to fund the Class Action settlement with an initial and minimum amount of \$950 million. Qualification guidelines make participation in the benefits of a fund uncertain, and most deadlines for filing may have expired.

Problems with PB

Problems appear related to both fittings and material, and somewhat to installation issues. Early versions used plastic (acetate) band fittings that were found to be more problematic. Later versions used aluminum crimps (also somewhat problematic), and more recently using copper crimp fittings. Special crimping tools are required to install these fittings. Some claims of product failure are at least partially rooted in poor training and improper installation (especially in earlier periods).

The plastic material itself is also suspected to fail. While scientific evidence is scarce, it also appears that oxidants in the public water supplies such as chlorine, react with the Polybutylene piping and fittings causing them to scale, flake, and become brittle. Micro-fractures result, and the basic structural integrity of the system is reduced. Thus, the system becomes weak and may fail without warning causing damage to the building structure and personal property. Many homes have PB plumbing that may not have experienced problems yet, but many plumbing professionals state that problems are only a matter of time (*when, not if*).



Note: PB should not to be confused with CPVC (Chlorinated Poly Vinyl Chloride (a more rigid piping systems that is typically an ivory white color), or PEX (cross-linked Polyethylene) tubing (translucent, red or blue plastic). Both of which are very different products that have not shown to have similar defects, though as with any product, improper installation such as by a non-professional can be very problematic. We suggest you review information at inspectapedia.com/plumbing.

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